NeuroImage

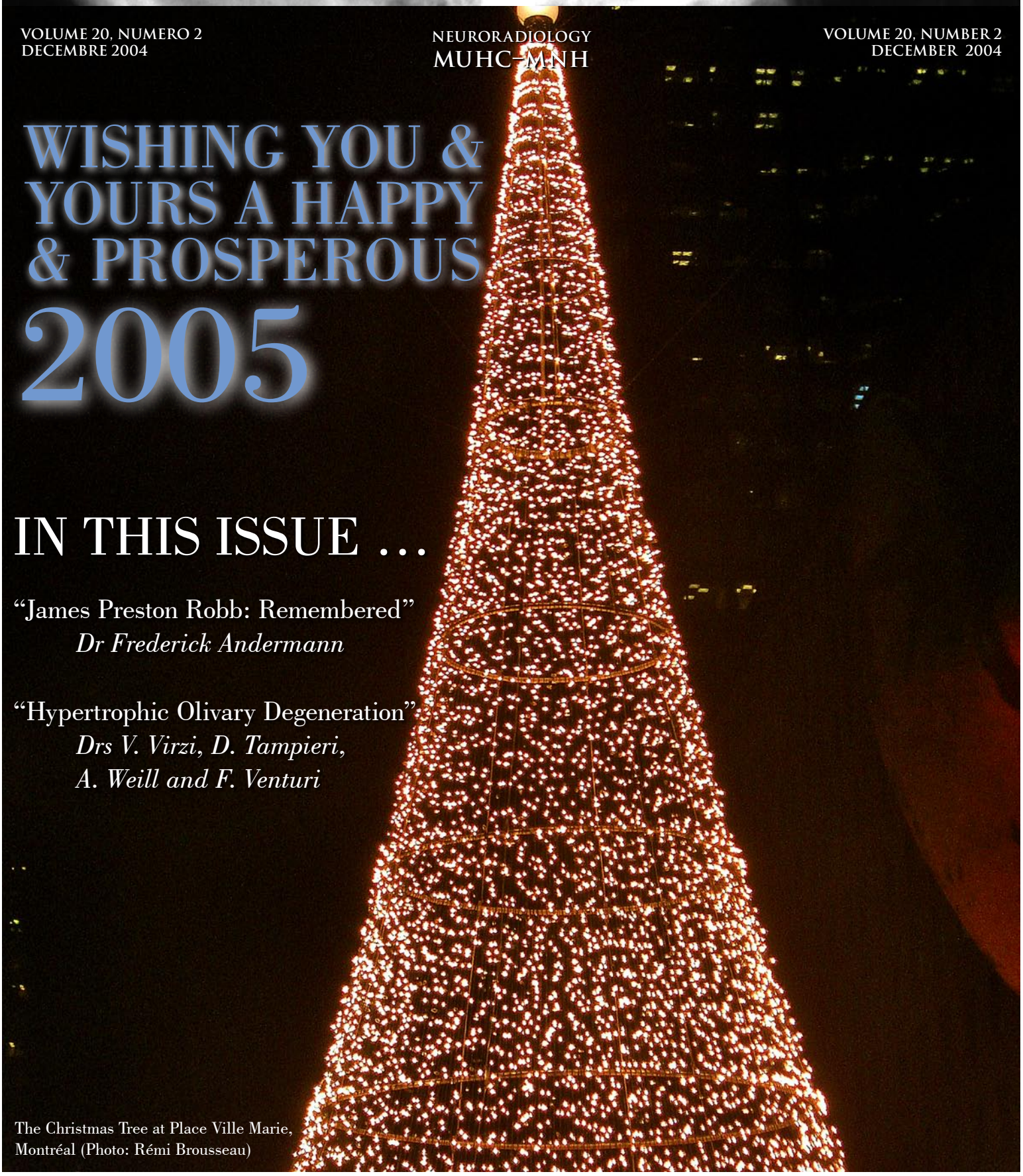
VOLUME 20, NUMERO 2
DECEMBRE 2004

NEURORADIOLOGY
MUHC–MNH

VOLUME 20, NUMBER 2
DECEMBER 2004

WISHING YOU & YOURS A HAPPY & PROSPEROUS 2005

IN THIS ISSUE …

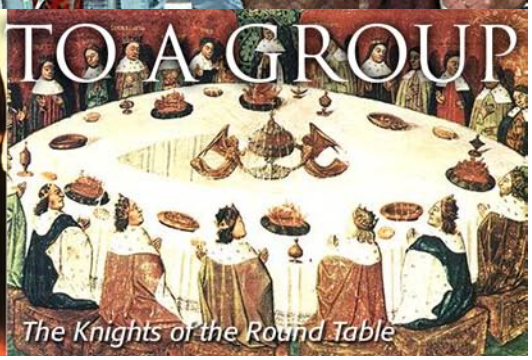


The Christmas Tree at Place Ville Marie, Montréal (Photo: Rémi Brousseau)

THE MONTREAL NEURORADIOLOGY STUDY CLUB CELEBRATES 30 YEARS

Group of Seven

The Beatles



The Knights of the Round Table

Words from the Editor

Dr. Denis Melançon

Our Neuroradiology Study Club has celebrated its 30th anniversary last June 27, during the meeting of the International Congress of Radiology. Many guests attended to enhance its success. I hope it will go on for many years. As of January 2005 it will appear on the Web: the site is presently under construction. The address will be "www.neurostudyclub.mcgill.ca". Those of you wishing to participate will need to register. This full issue of NeuroImage is also available on the web at "www.mni.mcgill.ca/neuroimage/index.html".

Best regards
Respetos Amicalement
Saudações Saluti affettuosi O Genki De
Herzliche Gruesse Cordialmente
Afectuosamente
Namaste

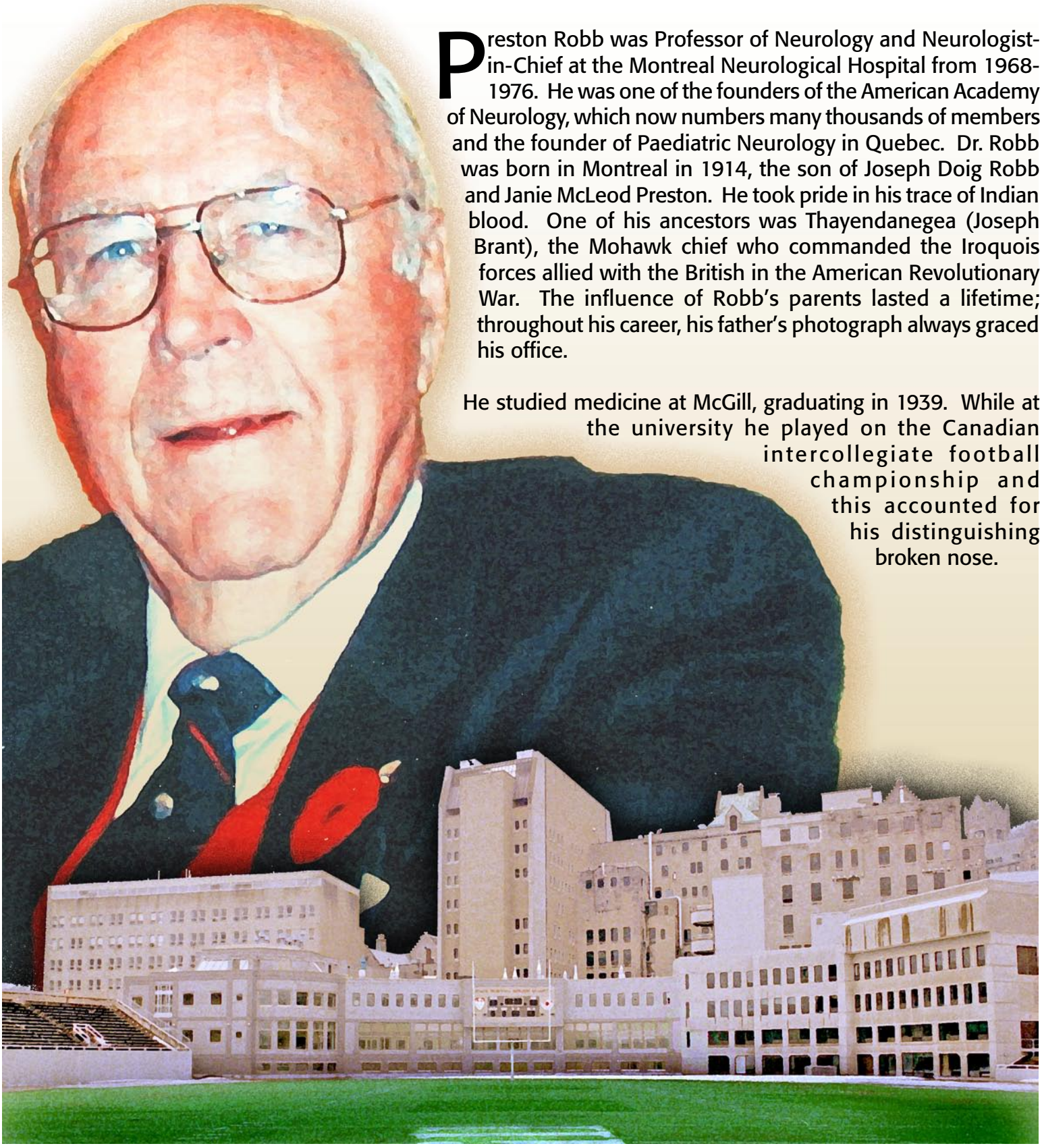
Volume 20 – number1 – Bibliothèque nationale, ISSN 1180-0844 National Library of Canada, Production – Denis Melançon – Neurikon Inc. Layout, Graphic Design, and some Photography by the Department of NeuroPhotography at the Montreal Neurological Hospital (12-2004)

IN CELEBRATION OF A LIFE WELL LIVED:

Dr. James Preston Robb

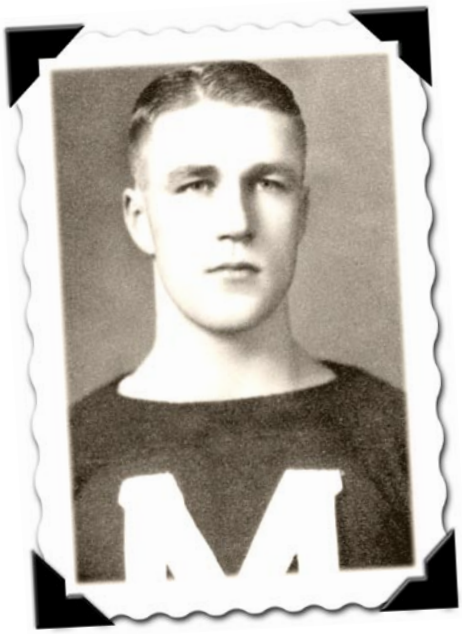
April 4, 1914 – September 25, 2004

Frederick Andermann, M.D. Montreal Neurological Institute and Hospital

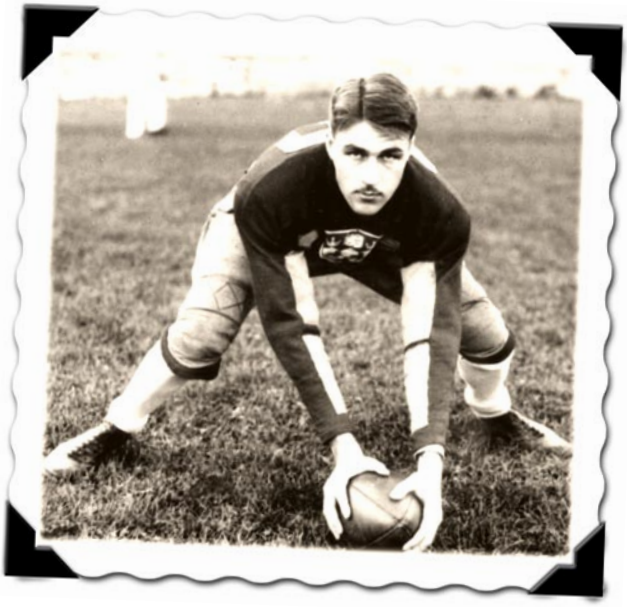


Preston Robb was Professor of Neurology and Neurologist-in-Chief at the Montreal Neurological Hospital from 1968-1976. He was one of the founders of the American Academy of Neurology, which now numbers many thousands of members and the founder of Paediatric Neurology in Quebec. Dr. Robb was born in Montreal in 1914, the son of Joseph Doig Robb and Janie McLeod Preston. He took pride in his trace of Indian blood. One of his ancestors was Thayendanegea (Joseph Brant), the Mohawk chief who commanded the Iroquois forces allied with the British in the American Revolutionary War. The influence of Robb's parents lasted a lifetime; throughout his career, his father's photograph always graced his office.

He studied medicine at McGill, graduating in 1939. While at the university he played on the Canadian intercollegiate football championship and this accounted for his distinguishing broken nose.



The team skills he learned in the Molson stadium stood him in good stead later on, perhaps contributing to his outstanding abilities as a captain of the rehabilitation group he created at the Montreal Children's Hospital and as a leader of neurology at McGill. After interning at the Montreal General Hospital and the Verdun Protestant, he joined the Royal Canadian Navy serving overseas and then at a base in Montreal. In response to Dr. Penfield's urgent request he was remanded to the Montreal Neurological Hospital. This experience sealed his fate propelling him into a career in neurology and prompting him to return there at the end of the War. An extended tour of American paediatric neurological centres took him to Johns Hopkins where he spent some time with Frank Ford, whose clinical skills he greatly admired, and to Boston where he worked with Richmond Paine and Randolph Byers. Upon his return to Montreal he set to work at the Montreal Children's Hospital and the Montreal Neurological Institute. At the Children's he succeeded Francis McNaughton, who was to become McGill's first Professor of Neurology. He was for generations of trainees from all over the world a role model of rectitude and fairness. As well, he was a magnificent teacher, always nurturing independent thought and supporting initiative.



Dr. Robb playing Saint Nicholas during Christmas (1953) in one of the hospital wards.

He was punctual, decisive, and his clinical judgement was phenomenal. Like many great paediatric neurologists, he obtained most of his information by watching children at play and interacting with their games. He was extraordinarily fond of children and they responded in kind, undaunted by his imposing stern exterior known to intimidate cocky residents and obstreperous sailors alike.

Cerebral palsy was a common problem during the years Robb was in practice. Accordingly, he developed a cerebral palsy conference staffed by a formidable team of occupational therapists, physiotherapists, speech therapists, orthopedic surgeons, social workers, psychiatrists, special education teachers and psychologists. Robb was a magnet. He attracted the finest members of these professions to his group and they formed a dynamic, loyal team around their captain. The cerebral palsy conference at the Montreal Children's Hospital served for many years as a model for centres across Canada.

(Left) *Preston Robb with Dr. Wilder Penfield and Dr. Francis McNaughton at Dr. Penfield's 60th Birthday. (**Above**) Dr. Robb demonstrates a surgical technique on Dr. Penfield with a teaspoon.*

Robb's research started with work in language localization with Wilder Penfield, whom he held in high regard, and he wrote about neurological complications of pregnancy, motor disability and various paediatric neurological problems. Above all, he pursued a lifelong interest in epilepsy. In 1964 he followed the call of his friend, Richard Masland, to the National Institutes of Health in Bethesda. After a stint there he travelled extensively, surveying facilities for the treatment of epilepsy across the United States and Canada. These travels culminated in a volume on the epidemiology of epilepsy entitled Epilepsy: A Review of Basic and Clinical Research. He pioneered the cooperative epilepsy studies launched by the NIH. His work set the stage for the centres of excellence for treatment of epilepsy created across the United States. Robb was greatly concerned about the creation in underdeveloped countries of treatment facilities for epilepsy and other neurological disorders. He trained many neurologists from Africa, Asia, and South America, and towards the end of his career served as visiting professor at the University of Nairobi. His exposure to the hurdles that must be overcome before epilepsy can be effectively treated in Third World countries left an indelible impression. Upon his return to Canada he wrote a practical text on the subject for paramedics and other health workers which has since been translated into Chinese, Spanish and Portuguese. His papers were a model of style and always to the point.

Preston Robb sings with Dr. Lloyd-Smith at the Hughlings Jackson Dinner 1952

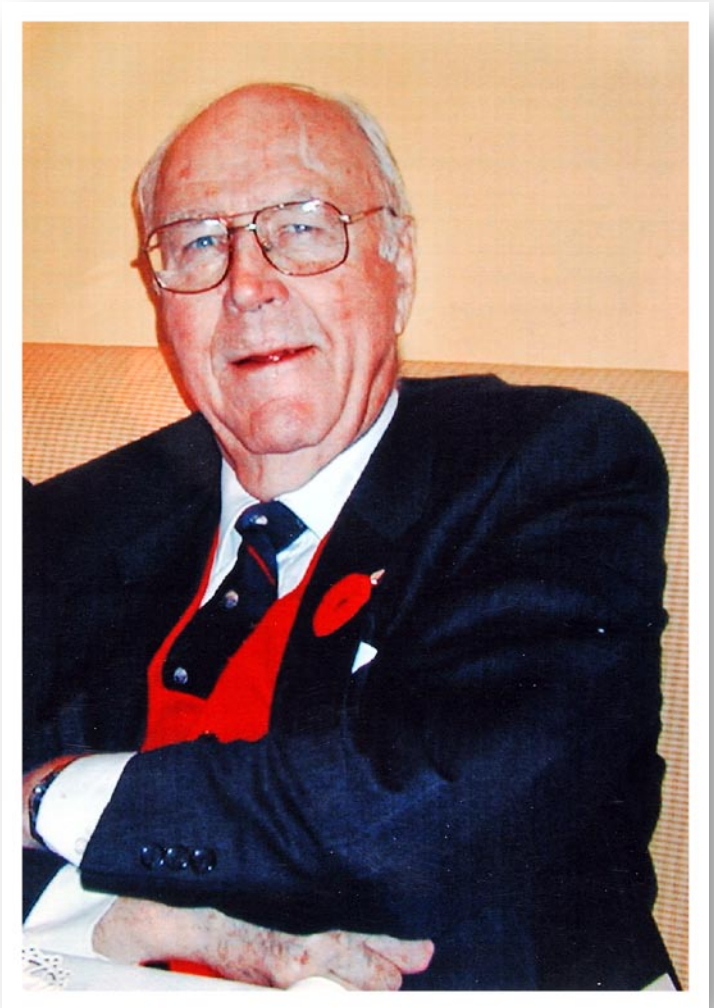
Robb was a founder and president of the Canadian Neurological Society and President of the American Epilepsy Society. He received the William Lennox Award from the AES and became chairman and medical advisor to many organizations, including the Presidential Advisory Board of the Epilepsy Foundation of America, The US Public Health Service Advisory Committee on the Epilepsies, and many local centres.

Robb was an example to his juniors in many ways, none more so than in his family life. His marriage to Mary Waller was a particularly happy one. She had been a head nurse at the Montreal General Hospital. Beautiful, kind, warm and endowed with faultless social judgement, she eased her husband's

heavy workload and helped generations of foreign neurological trainees and their families adapt to North American ways. They had 4 children, moulded by their happy home life. Although Robb never seemed quite certain about the role of women in medicine, the eventual addition to the family of a physician daughter-in-law seemed to tilt the scales in a favourable direction. Sociable and friendly, a droll raconteur, Robb was a wonderful host.

(Above) *Preston Robb speaking with a patient, summer 1973.* ***(Right)*** *Dr. Robb with the Neuro Nurses in 1992.*

In 1982 Robb was made Professor Emeritus of Neurology at McGill. He had always said that he did not want to be under-foot when he retired as Neurologist-in-Chief. True to his word upon retirement he moved to Lyn, Ontario



where he embarked on a second, highly successful, career as Chairman of the Board of the family company and at last had time to enjoy his hobbies of tree farming and wood carving.

During the long and satisfying years of our collaboration I came to appreciate deeply two attitudes that set Preston Robb apart. The first was his desire to understand the cultural and emotional background of his patients, often so different from his own. This, he sensed, determined their reaction to neurological disability in themselves and in their loved ones. The second was his insistence that the physician do everything possible to create an environment where patients and families were able to maintain their dignity while coping with the dreadful hurdles that life placed in their path.

Preston Robb died at the age of ninety after a brief illness. He was in full possession of his faculties to the end and gave a remarkable address after receiving a Lifetime Achievement Award from the Montreal Neurological Institute, just a week earlier.

Hypertrophic Olivary Degeneration (HOD), Revisited

Drs Virzi V.[1], Tampieri D.[2], Weill A.[3] and Venturi F.[1]

[1]Dept. di Neuroradiologia, Torino, Italia; [2]Dept. of Neuroradiology, McGill University, Montreal, Canada
[3]Dept. de Neuroradiologie, Université de Montréal, Canada

We refer the reader to our article on this topic published in the April 2001 issue of our Newsletter, by Venturi F. et al. It was giving the description of the Guillain-Mollaret Triangle and showing an example of HOD on the same side as the involvement of the Central Tegmental Track (CTT) from the red nucleus down to the medullary olive.

The Guillain-Mollaret triangle is a triangular circuit connecting the dentate nucleus of the cerebellum of one side with the red nucleus and the inferior olivary nucleus of the other side, via the superior cerebellar peduncle and the central tegmental tract (CTT) (Figs. 1, 2).

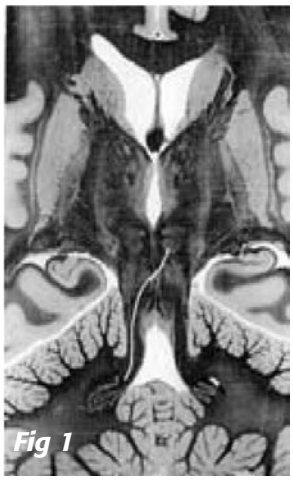


Fig 1

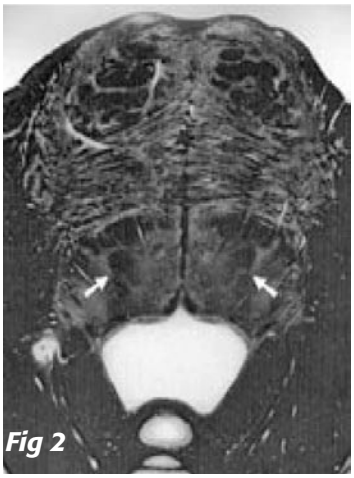


Fig 2

(Fig 1) *Anatomical oblique section along the superior cerebellar peduncles. The path of the cerebello-rubral tract from dentate nucleus to the contralateral red nucleus is shown.*
(Fig 2) *Anatomical, axial section of the brainstem, at the level of the pons, showing the location of the central tegmental tracts.*

HOD is considered a trans-synaptic degeneration because it occurs following loss of neuronal input to a cell, in this case the neurons of the inferior olivary nucleus. HOD occurs when a lesion, usually a haemorrhage, causes an interruption of the Guillain-Mollaret triangle (Fig3).

There are three possibilities of presentation of HOD, ipsilateral and controlateral to the lesion, but rarely it can envolve the olives bilaterally.

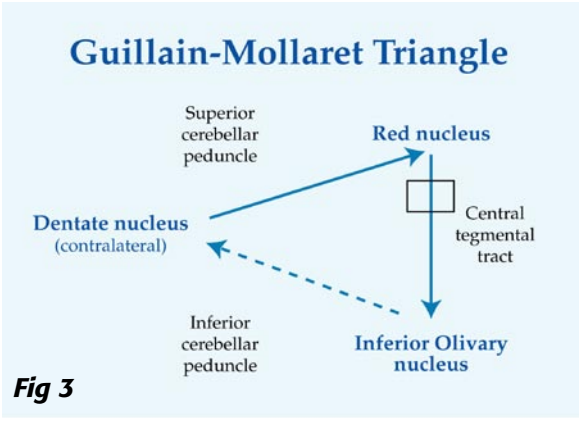
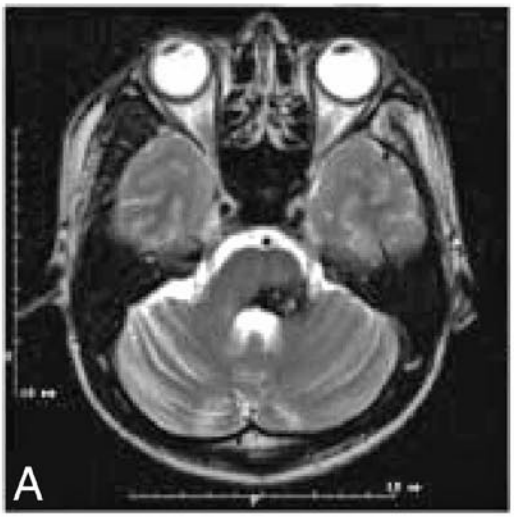
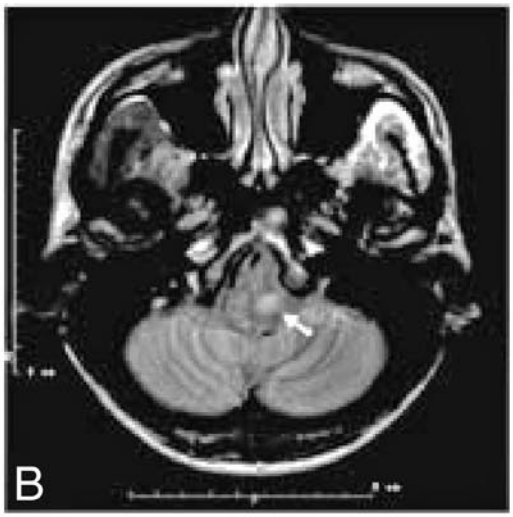


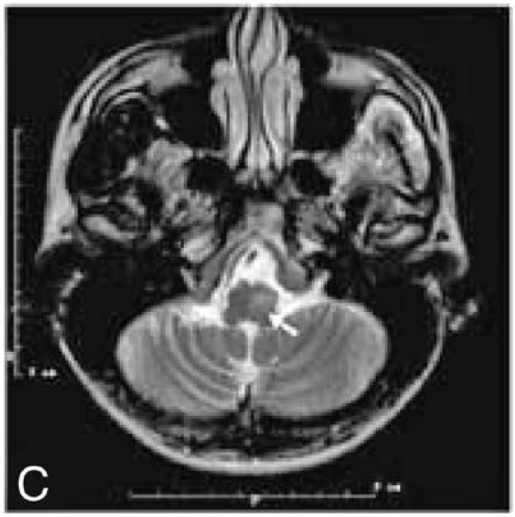
Fig 3

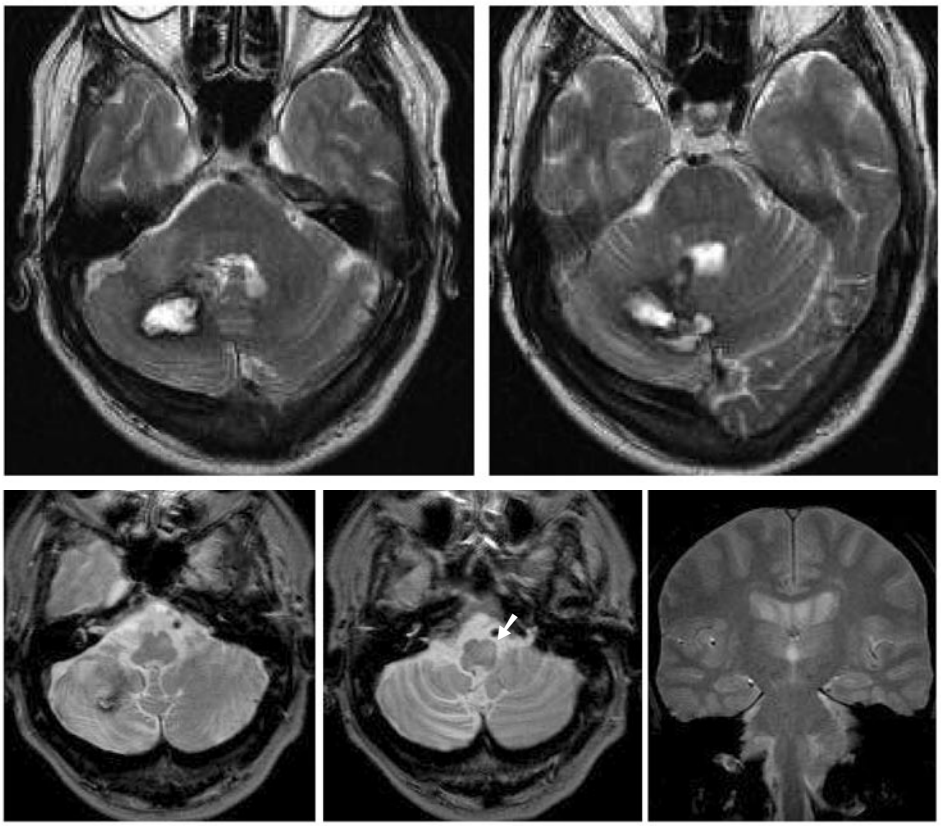
If the lesion is located in the tegmentum of the brainstem and involves the CTT, the degeneration occurs to the ipsilateral olive.

Fig4 *(below) MR images obtained in a patient with brainstem cavernous angioma.* ***(A)*** *Axial T2-weighted image shows hyposignal suggesting hemosiderin deposits in the left tegmentum of the pons.* ***(B,C)*** *axial PD/T2-weighted images show hypersignal at the level of the left medullary olive which appears also enlarged in comparison to the right one. The signal change is more apparent on the PD-weighted image* ***(B)****.*

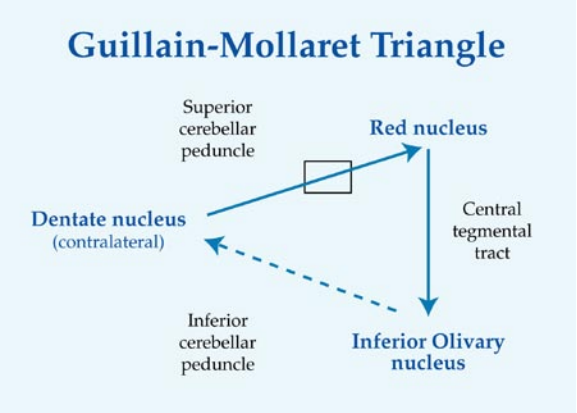

A


B


C

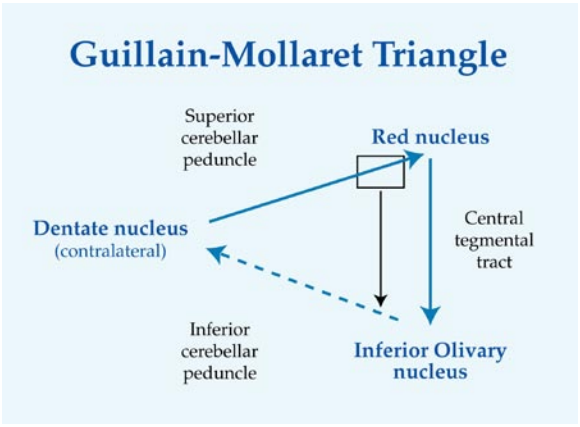


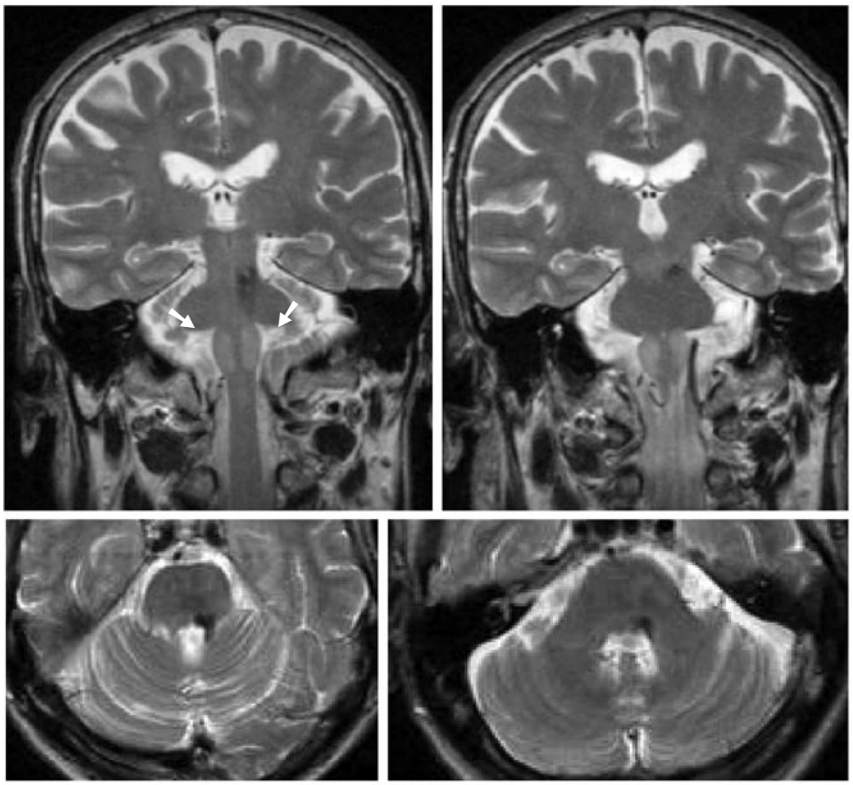
If the lesion is located in a cerebellar hemisphere and involves the dentate nucleus, the olivary degeneration will be contralateral, due to the decussation of the dentato-rubral fibers.



*(<) **Fig 5** MR images obtained in a patient with cavernoma at right dentate nucleus that bled Axial T2-weighted image shows*

***Fig 6 (>)** If the lesion involves the superior cerebellar peduncle, the degeneration will occur contralaterally and a paramidline lesion, if located near the peduncle, may result in bilateral HOD, if there is involvement of both the dentato-rubral fibers, and the CTT.*





REFERENCES

1) *Uchino A., Hasuo K., Uchida K. et al. (1993) Olivary degeneration after cerebellar or brain stem hemorrhage: MRI. Neuroradiology 35: 335-338*
2) *Kitajima M., Korogi Y., Shimomura O., et al. (1994) Hypertrophic olivary degeneration : MR imaging and pathologic findings. Radiology 192: 539-543*
3) *Rieder C., Rebouças R., Ferreira M. (2003) Holmes tremor in association with bilateral hypertrophic olivary degeneration and palatal tremor. Chronological considerations. Arq Neuropsiquiatr 61: 473-477*
4) *Goyal M., Versnick E., Tuite P, et al. (2000) Hypertrophic olivary degeneration: Metaanalysis of the temporal evolution of MR findings. AJNR 21: 1073-1077*
5) *Birbamer G., Buchberger W., Felber S., et al (1992)MR appearance of hypertrophic olivary degeneration: temporal relationships. AJNR 13: 1501-1503*
6) *Goto N., Kaneko M. (1981) Olivary enlargement: chronological and morphometric analyses. Acta Neuropathol (Berl) 54: 275-282*